Amendments to the Claims:

A listing of the entire set of pending claims, including amendments to the claims, is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) ~~Method~~ A method for driving a gas discharge lamp with an alternating current, the method comprising:

determining an orientation of the gas discharge lamp;

generating a ~~positive~~ lamp current (I_P) with a positive current intensity ($|I_P|$) for a positive duration (τ_P);

changing the direction of the lamp current; and

generating a ~~negative~~ lamp current (I_N) with a negative current intensity ($|I_N|$) for a negative duration (τ_N);

wherein the lamp current has a duty cycle ($D = \tau_P/(\tau_P + \tau_N)$), ~~differs from 50%; and~~

wherein the lamp current has a current ratio ($R = |I_P|/|I_N|$) ~~differs from 1~~, and

wherein at least one of the duty cycle (D) and the current ratio (R) are adjusted based upon the determined orientation of the gas discharge lamp.

2. (Currently Amended) The method of claim 1, wherein ~~the~~ an average lamp current (I_{AV}) is maintained to be substantially equal to zero.

3. (Currently Amended) The method of claim 1, wherein ~~a lamp characteristic is changed by changing the duty cycle (D) and the current ratio (R), while the~~ an average lamp current (I_{AV}) is maintained at a constant value.

4. (Canceled)

5. (Currently Amended) The method of claim [[3]]1, wherein the duty cycle (D) and the current ratio (R) are ~~changed~~ adjusted substantially simultaneously.

6. (Previously Presented) The method of claim 3, wherein the duty cycle (D) is changed in response to a user command, wherein the average current (I_{AV}) is measured, and wherein the current ratio (R) is changed in order to effectively maintain the average current (I_{AV}) at its constant value.

7. (Previously Presented) The method of claim 3, wherein the current ratio (R) is changed in response to a user command, wherein the average current (I_{AV}) is measured, and wherein the duty cycle (D) is changed in order to effectively maintain the average current (I_{AV}) at its constant value.

8. (Currently Amended) The method of claim 3, wherein, in response to a user command, the current ratio (R) and the duty cycle (D) are changed in combination ~~while obeying~~ to maintain a predetermined relationship between the current ratio (R) and the duty cycle (D).

9. (Currently Amended) The method of claim 3, wherein, the average current (I_{AV}) is measured, and in response to the measured average current (I_{AV}) ~~a user command~~, the current ratio (R) and the duty cycle (D) are ~~changed on the basis of information from~~adjusted to match values corresponding to the measured average current (I_{AV}) that are stored in a memory.

10. (Currently Amended) ~~Electronic~~ A driver for driving a gas discharge lamp, the driver being ~~designed~~ configured to perform the method of claim 1.

11. (Currently Amended) ~~Method~~ A method for driving a gas discharge lamp supplied with a commutating ~~DC~~ current, comprising:

setting ~~the~~ a duty cycle (D) of the commutating current~~to a value differing from~~

~~50%~~; and

setting ~~the~~ a current ratio (R) of a magnitude of the commutating current during a positive cycle to a magnitude of the commutating current during a negative cycle~~to a value differing from 1 such that a desirable particle distribution inside the lamp is obtained~~,

wherein at least one of the duty cycle (D) and the current ratio (R) are set based upon the orientation of the gas discharge lamp so as to maintain a desired particle distribution inside the gas discharge lamp.

12. (Previously Presented) The method of claim 11, wherein a combination of duty cycle (D) and current ratio (R) is set such that the commutating current has an average current intensity equal to zero.

13. (Currently Amended) The method of claim 11, wherein ~~the~~ a combination of duty cycle (D) and current ratio (R) is varied in order to vary ~~the~~ at least one of an efficacy of the gas discharge lamp ~~and/or to vary the~~ and a color temperature of the gas discharge lamp.

14. (Currently Amended) The method of claim 13, wherein ~~the~~ a combination of duty cycle (D) and current ratio (R) is varied such that the average current intensity of the commutating current is substantially constant.

15. (Canceled)

16. (Currently Amended) The method of claim 11, wherein the gas discharge lamp is arranged in a vertical orientation, and wherein the combination of duty cycle (D) and current ratio (R) is set to reduce segregation in comparison to a segregation that occurs when the duty cycle D is 50% and the current ratio is 1.

17. (Currently Amended) The method of claim 11, wherein the combination of

duty cycle (D) and current ratio (R) is set to increase segregation in comparison to a segregation that occurs when the duty cycle D is 50% and the current ratio is 1.

18. (Currently Amended) The method of claim 11, wherein the gas discharge lamp is arranged in a horizontal orientation, and wherein the combination of duty cycle (D) and current ratio (R) is set such that a shift of the particle distribution is effected in comparison to a segregation that occurs when the duty cycle D is 50% and the current ratio (R) is 1, to vary ~~the~~ at least one of a lamp efficacy ~~and/or to vary the~~and a color temperature of the gas discharge lamp.

19. (Currently Amended) The method of claim 11, wherein the gas discharge lamp is arranged in a horizontal orientation, and wherein ~~the~~ a combination of duty cycle (D) and current ratio (R) is set such that a shift of the particle distribution is effected, setting a color point on a color line at a position differing from a horizontal zero color point that occurs when the duty cycle D is 50% and the current ratio is 1.

20. (Currently Amended) The method of claim 11, wherein the gas discharge lamp is arranged in a vertical orientation, and wherein the combination of duty cycle (D) and current ratio (R) is set such that a shift of the particle distribution is effected, setting a color point on a color line at a position differing from a vertical zero color point that occurs when the duty cycle D is 50% and the current ratio is 1.

21. (Currently Amended) The method of claim 19, wherein the combination of duty cycle (D) and current ratio (R) is varied in order to make the color point travel along said color line.

22-23. (Canceled)

24. (Currently Amended) ~~Driving apparatus~~ A device for driving a gas discharge lamp, comprising:

~~current generating means for generating~~a current generator configured to generate a current; and

~~commutating means for receiving said~~ a commutator adapted to receive the current and to commutate the current to generate a commutating current having a duty cycle (D) and a current ratio (R) of a magnitude of the commutating current during a positive cycle to a magnitude of the commutating current during a negative cycle, and having an output ~~for connecting to a~~ configured to be connected to the gas discharge lamp,

wherein at least one of the duty cycle (D) and the current ratio (R) are adjusted based upon a control signal indicating an orientation of the gas discharge lamp.

~~the commutating means being arranged for commutating said current with a duty cycle differing from 50% and a current ratio (R) differing from 1.~~

25. (Currently Amended The ~~apparatus~~ device of claim 24, ~~the commutating means being arranged for maintaining the~~ wherein the commutator is configured to maintain an average current intensity of the commutating current equal to zero.

26. (Canceled)

27. (Currently Amended) The ~~apparatus~~ device of claim 26, ~~the commutating means being arranged for maintaining the~~ wherein the commutator is configured to maintain an average current intensity of the commutating current constant.

28. (Canceled)

29. (Currently Amended) The ~~apparatus~~ device of claim [[28]]24, ~~wherein the driving apparatus is provided with~~ further comprising a mode selection switch ~~coupled to said control input~~ outputting the control signal, the mode selection switch having at least two positions each indicating a different orientation of the gas discharge lamp.

30. (Canceled)

31. (Currently Amended) The ~~apparatus~~ device of claim [[30]]29, wherein the duty cycle (D) has a predetermined first value (D_U) differing from 50% when said mode selection switch is placed in a first position (U) indicative of a ~~standing~~ vertical orientation of the gas discharge lamp, and wherein the duty cycle has a predetermined second value (D_D) differing from 50% when said mode selection switch is placed in a second position indicative of a ~~hanging~~ horizontal orientation of the gas discharge lamp; and wherein $D_D \neq D_U$.

32. (Canceled)

33. (Currently Amended) The ~~apparatus~~ device of claim [[28]]24, ~~adapted for a variable particle distribution shift, wherein the driving apparatus is provided with a control setting device coupled to said control input~~further comprising a controller for receiving the control signal and for controlling the current generator and commutator to adjust the duty cycle (D) and current ratio (R) based upon the control signal, the controller also being configured to receive a second control; and

~~wherein the~~ a control setting device ~~is arranged for generating a~~ configured to provide the second control signal ~~(S_U)~~, ~~which is~~ the second control signal being continuously variable within a predetermined range;

~~and~~ wherein the ~~driving apparatus is arranged~~device is configured to continuously vary ~~the~~ a combination of the duty cycle (D) and the current ratio (R) of the commutating ~~lamp~~ current in response to said second control signal.

34. (Currently Amended) The ~~apparatus~~ device of claim 24, ~~adapted to generate said~~wherein the device is configured to generate the commutating current with a duty cycle equal to 50% during a start phase of the gas discharge lamp.

35. (Currently Amended) The device of claim 24, further comprising: ~~System with automatic orientation-independent efficacy capability, for driving a gas discharge lamp a substantially orientation-independent efficacy, the system comprising:~~

~~a driver as recited in claim 24; and~~

a position detector ~~having at least one output coupled to the control input of the driver; the position detector being arranged for detecting the actual~~configured to automatically detect the orientation of the gas discharge lamp, and ~~for generating at its said output a~~ in response thereto to output the control signal indicative of such orientation.

36. (Currently Amended) The ~~system of claim 34~~ device of claim 35, wherein the ~~driving apparatus~~device is responsive to the ~~position detector output~~control signal to set ~~the~~ a difference between the duty cycle (D) and 50% to a value that depends on the ~~position of the mode selection switch which is related to the~~ detected orientation of the gas discharge lamp.

37. (Currently Amended) The ~~system of claim 34~~ device of claim 35, wherein the ~~driving apparatus~~ device is responsive to the ~~position detector output~~control signal to generate a duty cycle having a predetermined first value (D_U) differing from 50% when said position detector ~~output signal has~~ outputs the control signal having a first value indicative of a ~~standing~~ vertical orientation of the gas discharge lamp, and ~~wherein said driving apparatus is responsive to the position detector output signal to~~ generate a duty cycle having a predetermined second value (D_D) differing from 50% when said position detector ~~output signal has~~ outputs the control signal having a second value indicative of a ~~hanging~~ horizontal orientation of the gas discharge lamp, and wherein $D_D \neq D_U$.

38. (Currently Amended) The ~~system of claim 36, designed for driving a symmetrical lamp~~ device of claim 37, wherein $D_D = 100\ \% - D_U$.

39. (Currently Amended) The ~~system of claim 34~~device of claim 35, further comprising a fitting for receiving a lamp cap of a lamp assembly, the fitting having contacts connected to output terminals of the commutator, wherein said position detector is associated with said fitting.

40. (New) The method of claim 1, wherein both the duty cycle (D) and the current ratio (R) are adjusted based upon the determined orientation of the gas discharge lamp.

41. (New) The method of claim 1, wherein the duty cycle (D) is adjusted to differ from 50% and the current ratio (R) is adjusted to differ from 1.

42. (New) The method of claim 11, wherein both the duty cycle (D) and the current ratio (R) are set based upon the orientation of the gas discharge lamp so as to maintain a desired particle distribution inside the gas discharge lamp.

43. (New) The method of claim 11, wherein the duty cycle (D) is adjusted to differ from 50% and the current ratio (R) is adjusted to differ from 1.

44. (New) The device of claim 24, wherein both the duty cycle (D) and the current ratio (R) are adjusted based upon the control signal indicating the orientation of the gas discharge lamp.

45. (New) The device of claim 24, wherein the duty cycle (D) is adjusted to differ from 50% and the current ratio (R) is adjusted to differ from 1.